2.0 PROJECT DESCRIPTION

2.1 PROJECT SETTING

The Coscol Petroleum/El Paso Corporation (Coscol), seeks authorization from the California State Lands Commission (CSLC) to terminate lease PRC 3414.1 and to:

- Remove the existing Coscol Marine Oil Terminal (MOT), located in San Pablo Bay (see Figure 2-1), that was used for loading and unloading crude oil and petroleum products during operation of the Pacific Refinery (Refinery);
- Execute an Abandonment Agreement for the abandonment in place of approximately 1.4 miles of submerged and buried petroleum transfer pipelines and utility conduits that connected the MOT to the Refinery; and
- Abandon in place approximately 160 feet of transfer pipelines, utility conduits and a vault[1] on the Hercules shoreline.

The Refinery was built in 1966 and operated for 31 years, ceasing operations in 1997. The land-based portion of the Refinery was decommissioned, dismantled, remediated, and sold to New Pacific Properties in 1997. New Pacific Properties redeveloped the site for housing, a school, commercial use, and open space. The MOT and submerged pipelines in San Pablo Bay were decommissioned and have been in caretaker status since 1997.

2.2 PROJECT BACKGROUND

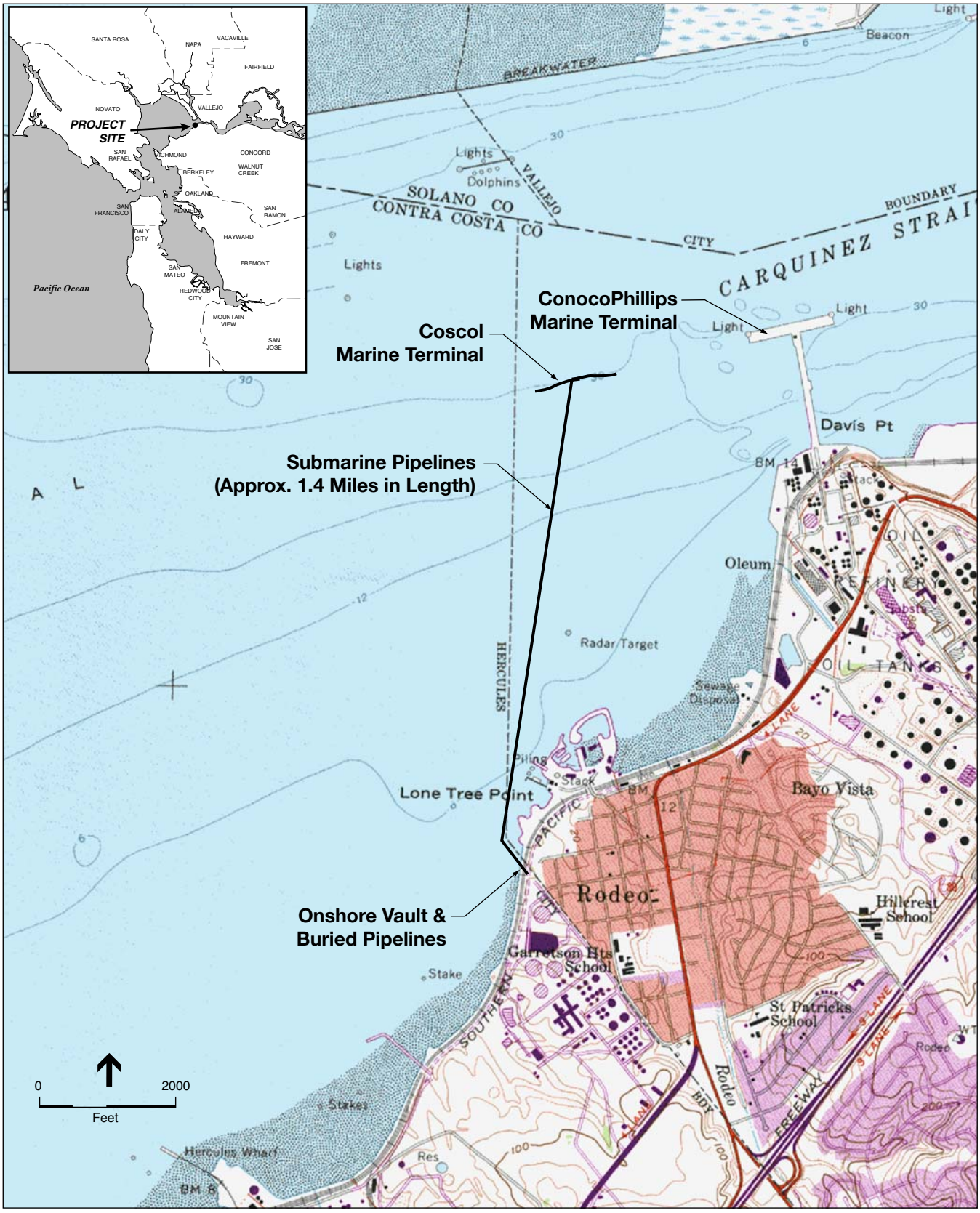
2.2.1 Project Title

Coscol Petroleum/El Paso Corporation (Coscol) Marine Terminal Deconstruction and Pipeline Abandonment Project.

2.2.2 Lead Agency Name and Address

California State Lands Commission
100 Howe Avenue, Suite 100-South
Sacramento, CA 95825

[1] The exact dimensions of the vault cannot be determined from available drawings and because the vault is covered with a concrete apron. There is an access cover approximately 1.5 by 3 feet on top of the vault. The concrete apron vault is approximately 25 feet wide and extends about 20 to 25 feet from the shoreline.



SOURCE: USGS; ESA

Coscol Marine Terminal MND . 208518

Figure 2-1
Project Site Location

2.2.3 Contact Person and Telephone Number

Eric Gillies, Staff Environmental Scientist
(916) 574-1897

2.2.4 Project Location

County: Contra Costa
City: City of Hercules and Town of Rodeo
Waterway: San Pablo Bay

Assessor's Parcel Number (APN): Parcel 1 - APN 400-030-013 (50-foot by 1.4-mile pipeline corridor) and Parcel 2 - APN 400-030-014 (400-foot by 0.25-mile MOT area).

Upland Owner's Name: City of Hercules, Union Pacific Railroad, and East Bay Regional Parks District.

Upland Owner's Address (if different from applicant):

- City of Hercules
  111 Civic Drive
  Hercules, CA 94547

- Union Pacific Railroad
  1400 Douglas Street
  Omaha, NE 68179

- East Bay Regional Parks District
  2950 Peralta Oaks Court
  P.O. Box 5381
  Oakland, CA 94605-0381

Telephone: City of Hercules: (510) 799-8200
Union Pacific Railroad: (402) 544-5000
East Bay Regional Parks District: (510) 635-0135

Upland Address: Not applicable

Subdivision, Block, and Lot Number: Not applicable

Assessor's Parcel Number: Onshore pipelines APN 400-030-021 and 400-030-045.

2.2.5 Project Applicant's Name and Address

Coscol Petroleum/El Paso Corporation (Coscol)
Mr. Robert (Bob) Cornez, Project Manager
2 North Nevada Avenue #468
Colorado Springs, CO 80903
Phone (970) 927-6804; Fax (719) 667-7876

2.2.6 General Plan Designation

Contra Costa County – WA: Water, OS: Open Space, and PS: Public/Semi Public.
Hercules – Waterfront Commercial; New Pacific Properties Specific Plan Area - Victoria Crescent Open Space (see Figure 2-2).

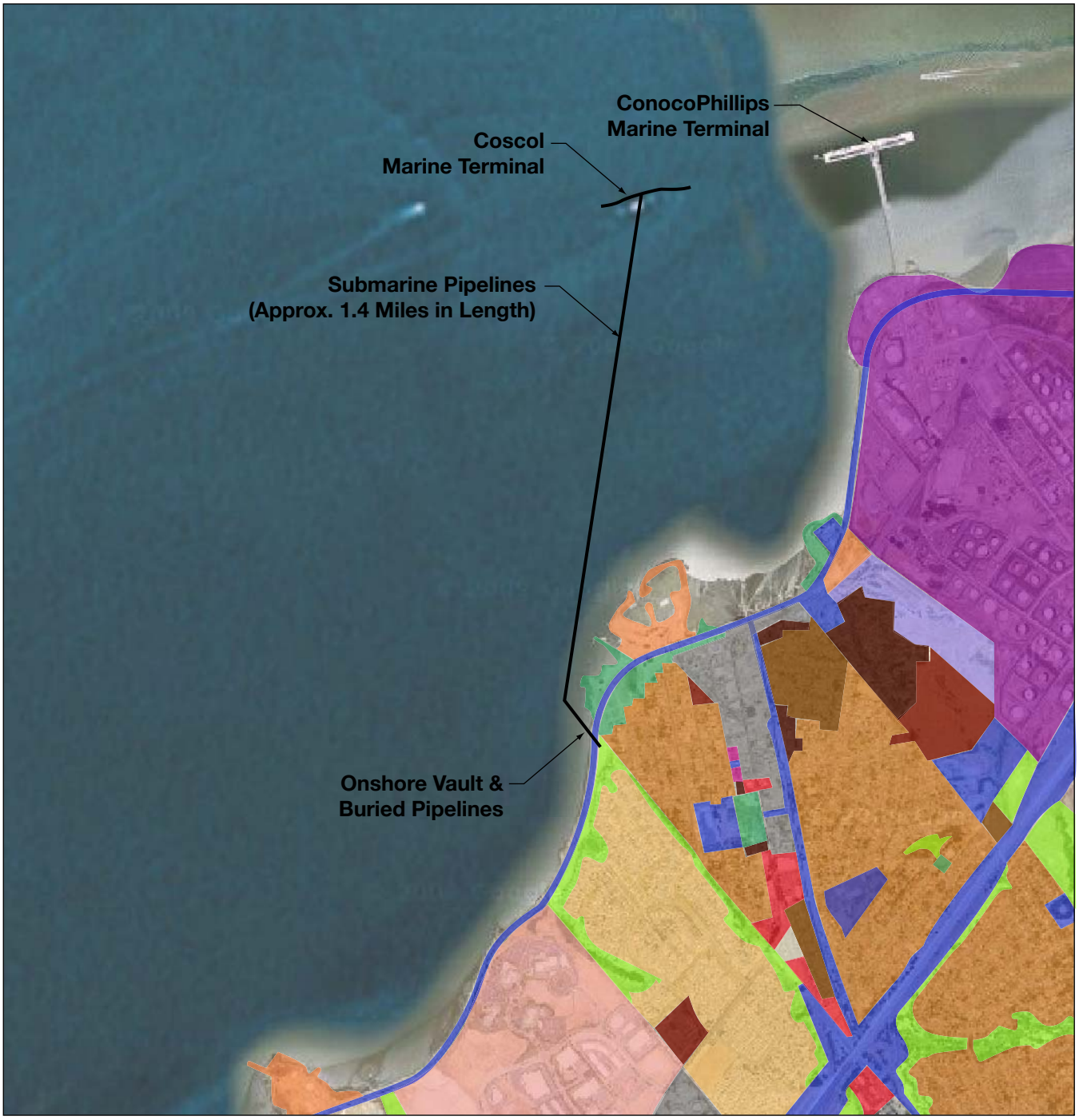
The Coscol MOT is located in an unincorporated area of Contra Costa County in San Pablo Bay designated as Water in the Contra Costa County General Plan 2005-2020 (Contra Costa County 2005). Portions of the submerged petroleum pipelines are in the city of Hercules' jurisdiction. The area that includes the onshore pipelines is included in the New Pacific Properties Specific Plan (City of Hercules 2000). The area of the onshore pipelines is designated as the Victoria Crescent Open Space and the Union Pacific Railroad right-of-way is designated as Waterfront Commercial. The proposed Project would not require an amendment of the Contra Costa County General Plan or the New Pacific Properties Specific Plan. A variance from the existing residential zoning status would not be required.

2.2.7 Land Use

Existing Land Uses – Onshore

Victoria-By-The-Bay residential subdivision

The Victoria-By-The-Bay residential subdivision (Victoria-By-The-Bay) is located approximately 1 mile southeast of the MOT. The subdivision was built on the former Refinery site in Hercules, California. The 206-acre community has 748 single-family homes, 132 multi-family units, more than 30 acres of parks and designated open space, a commercial center, and an elementary school. Single-family residences in the unincorporated area of Rodeo are located approximately 1 mile southeast of the MOT east of Victoria-By-The-Bay.



SOURCE: Contra Costa County Community Development Department, 2008

Coscol Marine Terminal MND . 208518

Figure 2-2
General Plan Designations

Union Pacific Railroad

The Union Pacific Railroad owns a right-of-way and two sets of tracks that are located along the shoreline. The Project's onshore vault and portions of the onshore buried pipelines are within the Union Pacific Railroad right-of-way.

Bay Trail

The Bay Trail is a planned, recreational trail that, when complete, will circle San Francisco and San Pablo Bays with 400 miles of hiking and bicycle trails. Presently, approximately 290 miles of the trail are complete (San Francisco Bay Trail 2009). The Bay Trail in the area of the proposed Project is operated and maintained by the East Bay Regional Parks District, and consists of an unimproved trail along the shore of San Pablo Bay and through Victoria Crescent Open Space where the Coscol pipelines reach land. This portion of the trail is planned to be linked with other existing trail segments to the north and south of the open space.

ConocoPhillips Refinery

The ConocoPhillips Refinery is located along the Bay front near Davis Point just east of Interstate 80. This refinery has a crude oil capacity of 120,000 barrels per day and produces both California Air Resources Board (CARB) diesel and CARB gasoline (ConocoPhillips 2008).

Existing Land Uses – Offshore

Outfalls

Two outfalls into San Pablo Bay are located near the proposed Project. A city of Hercules stormwater outfall is located southwest of Lone Tree Point and extends approximately 0.32 mile (1,700 feet) into the Bay. A Rodeo Sanitary District treated sewage outfall is located northeast of Lone Tree Point and extends approximately 4,700 feet into the Bay.

ConocoPhillips MOT

The ConocoPhillips Refinery includes a MOT that extends from Davis Point north into San Pablo Bay approximately 1,800 feet. The ConocoPhillips MOT is used to transfer petroleum or finished product to and from tankers and barges.

Dredged Material Disposal Sites

An average of 6 million cubic yards (mcy) of sediments are dredged from shipping channels throughout San Francisco Bay each year. In the past, the majority of the dredged materials were disposed of in San Francisco Bay. Today there are three disposal sites in San Francisco Bay, including one in the Carquinez Strait, one in San Pablo Bay, and one off Alcatraz Island. Each year, approximately 2 to 3 mcy of dredged material is disposed of at the Carquinez Strait site (SF-9) and approximately 0.5 mcy of dredged material is disposed of at the San Pablo Bay site (SF 10) (ACOE 2001).

Shipping Channel

The shipping channel is navigable and is used for commercial and military shipping. Deep water ship traffic bound for both the Port of Sacramento and the Port of Stockton traverse Carquinez Strait. The MOT is adjacent to the shipping channel.

Recreation

San Pablo Bay is used for recreational purposes such as boating, sailing, and kayaking. San Pablo Bay is also used for fishing, especially for sturgeon and striped bass.

2.2.8 Zoning Classification

Contra Costa County: U – Unrestricted.
City of Hercules: New Pacific Properties Specific Plan Area.

2.3 DECONSTRUCTION PROCEDURES

2.3.1 Materials and Equipment

Anticipated materials and equipment to complete the work are listed below. The materials required for the Project are limited, as the primary activity is deconstruction.

Materials

The following materials may be required to execute the deconstruction Project:

- Diesel fuel;
- Gasoline to power small portable equipment;

- Compressed gases for metal cutting;
- Penetrating oil to lubricate corroded fittings;
- Marking paint;
- Diamond wire cable;
- Lumber for debris catchment scaffolding; and
- Oil spill booms and sorbent material (on-hand as contingency).

Equipment

The following equipment may be required to execute the deconstruction Project:

- Crane (200 ton);
- Crane (20 ton);
- Derrick crane;
- Barge (30 feet by 110 feet);
- Barge (20 feet by 50 feet);
- Excavator with shear;
- Concrete drill;
- Portable electrical generator(s);
- Diamond wire saw;
- Pulverizer;
- Hydraulic pile cutter;
- Vibratory pile extractor;
- Tug boat (1,000 horsepower);
- Tug boat (500 horsepower);
- Anchor boat;
- Loader;

- Compactor;
- Dump truck;
- Diver support equipment; and
- Hand tools.

Temporary Facilities

Temporary facilities will be required during the Project to support the safe and efficient execution of the work. Temporary facilities will include:

- Barge-mounted first-aid and safety stations at the marine work site;
- Barge-mounted portable sanitary stations at the marine work site;
- Barge-mounted office and break areas at the marine work site;
- Secured storage facilities at both the marine work site and the shore side staging area;
- Landings/dock facilities for watercraft to access the work areas;
- Utilities as required to execute the work; and
- Marker buoys delineating the construction work area.

A specific listing of temporary facilities that would be used to execute the work would be prepared following selection of the construction contractor; however, the analysis considered in this document assumes that all likely temporary facilities would be used and represents the worst case. The work breakdown structure includes seven distinct work activities:

- Lead-based paint and asbestos surveys, and if indicated, abatement;
- Conventional demolition/removal of surface equipment and structures from the MOT;
- Demolition of marine structures;
- Diamond wire saw cutting of concrete structures;
- Processing, transport and recycling/disposal of demolition debris; and

- MOT-side abandonment and cutting of pipelines to a depth at least 3 feet below the Bay sediments; and
- Shore-side pipeline abandonment.

2.3.2 MOT Deconstruction

MOT deconstruction would be initiated using a CSLC approved, project-specific, Marine Safety Plan. Key MOT deconstruction work activities would include:

- Removal/demolition of appurtenant facilities;
- MOT fixtures removal/demolition;
- Concrete deck demolition;
- Concrete catwalk demolition;
- Wooden and concrete pile demolition; and
- Removal of debris, if any, and marker buoys.

Removal/Demolition of Appurtenant Facilities

Large equipment and facilities that are present on the MOT structure would be removed prior to deconstruction of the landing platform, including:

- Petroleum hydrocarbon vapor recovery system;
- Loading arm assembly;
- Fixed crane;
- Hydraulic crane;
- Fire water pumps and appurtenant piping;
- Sump tank, pump and piping;
- Diesel generator set;
- Miscellaneous pumps, valves, and piping;
- Equipment storage building; and
- Transfer piping.

Prior to the start of deconstruction activities, Coscol would conduct a lead-based paint survey to assess if and the extent to which existing equipment and/or storage buildings are coated with lead-based paint. Also prior to initiating deconstruction activities, an asbestos survey would be commissioned to assess the extent that asbestos containing material (ACM) is present within the structures on the MOT.

A recent site visit conducted by the CSLC on December 2, 2008, has shown that there is a very strong likelihood that lead-based paints and ACM are present on or within the appurtenant facilities at the MOT. Given this likelihood, Coscol would be required to retain a specialty abatement contractor to mitigate these issues prior to the general deconstruction of the MOT, as described in the Construction Work Plan (see Appendix B). Other potentially hazardous materials may also be present, including mercury switches, petroleum product residues, and hydraulic fluids. Prior to commencement of activities to abate these materials at the MOT, site specific health and safety plans for these activities would be prepared by Coscol that, at a minimum, comply with applicable State and Federal regulations.

Other hazardous materials potentially occurring in equipment on the MOT such as coolants, hydraulic fluids, diesel fuel, oils, or mercury (in equipment gauges and switches) would be identified. The deck-mounted equipment was reportedly drained of hydrocarbons and vented prior to the MOT being placed in caretaker status in 1997 (Pacific Refining 2008). However, procedures would be implemented to inspect deck-mounted equipment and flush or drain the equipment as appropriate, so that the equipment could be safely removed without risking petroleum or other hydrocarbon releases. The Project Spill Prevention, Control and Countermeasure (SPCC) Plan would include procedures to prevent a potential release to the Bay of hazardous materials, and handling and disposal of hazardous materials. Equipment such as switches and gauges that contain mercury would be tagged prior to removal for special handling to prevent an inadvertent discharge of mercury on the deck surfaces or in Bay waters.

Removal of the deck-mounted equipment and appurtenant facilities would involve several types of work activities including the use of cutting torches (hot-work), air- or electric-powered tools, rigging equipment, and barge-mounted cranes. These activities would occur largely over deck surfaces, minimizing the potential for equipment and appurtenant facilities to be dropped into the Bay. Large pieces of equipment or facilities to be removed would have tag lines attached to facilitate recovery from the Bay in the event of an accident. Equipment and facilities that cannot be salvaged would be

disposed of by either selling equipment and components for scrap, or disposing of unusable equipment and facility components in a permitted landfill.

MOT Fixtures Removal/Demolition

Following removal of deck-mounted equipment and appurtenant facilities, deck fixtures would be removed and demolished. Deck fixtures include heavy metal fenders, mooring bits, mooring cleats, and mooring posts. Fixture removal and demolition may proceed concurrently with concrete deck demolition.

Concrete Deck Demolition

The MOT is comprised of seven steel-reinforced concrete deck structures: four mooring dolphin decks, two breasting dolphin decks, and one central landing deck. It is anticipated that each concrete deck structure would be cut into pieces weighing between approximately 40 and 100 tons each, rigged, and loaded with a crane onto a barge for transfer to a shore-base facility for further processing (see Section 2.4 below). The actual size of the concrete pieces would depend on the availability of equipment at the time deconstruction services are procured, and would be detailed in a project-specific Rigging and Lifting Plan that would be approved by the CSLC.

It is anticipated that each concrete deck structure would be cut into smaller pieces using a diamond wire saw. Prior to initiating sawing activities, a hole-pattern would be laid out on the surface of the deck, holes would be drilled through the deck, and the diamond wire saw blade would be fed through two holes between which a cut would be made. Rigging would be secured to each piece prior to it being cut free from the pile caps.

Prior to implementing the concrete deck demolition process, provisions would be made to contain debris and cutting fluids associated with the concrete demolition process. It is anticipated that a temporary lumber substructure, or another appropriate system, would be erected beneath the work areas to contain falling debris from the demolition process. If cutting fluids are used during the drilling or concrete sawing process, temporary containment sumps would be erected around the work area. Debris and cutting fluid containment details would be provided by the selected contractor in a project-specific work execution plan to be prepared for review and approval by the CSLC prior to implementing the demolition work.

Central Landing Platform. The central landing platform measures 60 by 160 feet, and is estimated to weigh approximately 1,000 tons. The deck thickness varies between 0.75

and 1.0 foot, although thicker sections occur where the deck is underlain by the pile caps. It is anticipated that the central landing platform would be cut into a minimum of 10 pieces weighing no more than 100 tons each.

Breasting Dolphins. Each breasting dolphin measures approximately 55 by 30 feet, and is estimated to weigh approximately 500 tons. The average deck thickness is approximately 4 feet. It is anticipated that each breasting dolphin would be cut into a minimum of five pieces weighing no more than 100 tons each.

Mooring Dolphins. Each mooring dolphin measures approximately 25 by 25 feet, and is estimated to weigh approximately 200 tons. The average deck thickness is approximately 4 feet. It is anticipated that each mooring dolphin would be cut into a minimum of two pieces weighing no more than 100 tons each.

Concrete Catwalk Demolition

The MOT facility includes six steel-reinforced concrete catwalk segments that total approximately 855 linear feet in length. The catwalk segments connect the seven platforms/dolphins that comprise the primary MOT structures. Each catwalk segment is approximately 5 feet wide, and includes steel handrails.

Deconstruction of the catwalk segments would involve cutting the catwalk away from the platforms and dolphins as well as the intermediate pile cap support structures, then rigging and lifting the catwalk onto a barge for transport to the shore base for further processing either for recycling or disposal at a permitted landfill. Depending on the actual barge and crane equipment employed on the project, the catwalk segments may be cut into smaller pieces to facilitate their removal.

Pile Demolition

The MOT facility includes a total of 437 piles. Of the piles, 259 are precast, steel-reinforced concrete piles that provide the primary support for the MOT facilities, while 178 are creosote-treated timber fender piles. Most of the concrete piles are 20 inches square in section, although it is estimated that about eight are octagonal in section. The octagonal piles were replacement piles installed following an accident that damaged some of the original square-sectioned piles in 1978.

Of the 259 concrete piles, 136 are battered (Pacific Refining 2008). That is, they are embedded at an angle rather than vertically, to better resist horizontal forces. The MOT

plans as approved for construction (see Appendix B) suggest that the length of embedment of the concrete piles into the Bay sediment is on the order of 40 to 85 feet, depending on whether they are supporting a MOT facility subject to heavy loads (dolphin or landing platform), or a minor facility with relatively light loads (catwalk or boat landing dock).

The MOT plans suggest that the embedment length of the timber piles is on the order of 30 to 35 feet into the Bay sediment. It is anticipated that many of the piles are 40 plus years old, and would likely break if extraction is attempted.

The general practice for pile removal in the San Francisco Bay Area is removal to at least 2 feet below the mudline. This practice is appropriate in areas where scour is not expected to occur and is sufficient to ensure that the pile stubs remain buried within the sediments, and do not have the potential to protrude above the seafloor, posing a potential hazard to navigation (Cacchione 2008).

The MOT is located at the northeastern section of San Pablo Bay at the mouth of the Carquinez Strait on the southern edge of the shipping channel at the eastern end of Pinole Shoal. Pinole Shoal is an extensive shallow-water area located between Selby on the east and Pinole Point on the west, transected by the shipping channel. The substratum of the deeper portion of the shoal, near the navigation channel, is primarily coarse to medium, firmly packed sand with scattered patches of firm, cohesive silt-clay (Pacific Refining 2008). Toward the shore, especially in the area between Lone Tree Point and Pinole Point, the substratum contains more fine sand and silt (Pacific Refining 2008).

The site of the MOT adjacent to the shipping channel is a depositional environment where water moving through Carquinez Strait slows down as it enters the broader section of the Bay, and the sediment in the water settles out. Maintenance dredging was performed at the MOT in 1978 to lower the overall sediment elevation to -38 feet, plus 2 feet of overdraft, at low tide. By 1988, sediment deposition at the MOT resulted in reduction of the draft at the MOT to -32 feet at low tide. The reduced draft reportedly required certain vessels to enter the MOT area during high tide, and increased the use of lighter vessels.

In March 1991, dredging was again conducted at the MOT to increase the depth to -38 feet at low tide. An estimated 102,906 cubic yards of sediment was dredged from

the area of the MOT, based on the results of pre- and post-dredging surveys (Pacific Refining 2008).

August-September 2005 bathymetric surveys conducted by Fugro West (Pacific Refining 2008) indicate that the general water depth under the MOT structures is currently approximately 30 feet referenced to mean lower low water (MLLW). The water depth increases to 40 feet to the north in the shipping channel, and to 22 feet or less to the south in the shoreward direction. The 30- to 32-foot depth measured in the vicinity of the central landing platform shows that approximately 6 to 8 feet of deposition has occurred in the immediate vicinity of the central landing platform since the last maintenance dredging was conducted in March 1991.

Local scour in the immediate vicinity of the four mooring dolphins and the east breasting dolphin was evident from the bathymetric survey conducted between August and September 2005 by Fugro (Pacific Refining 2008), and is likely the result of the water current accelerating locally around the pile clusters. The Fugro study noted that the localized scour pattern was not evident around the piles of the central landing platform and the west breasting dolphin. Because the prevailing current is from east to west through this area as the flow from Carquinez Strait empties into the Bay, and the piles that support the central landing platform and the west breasting dolphin are in the shadow of the east breasting and mooring dolphins during an outgoing tide, the current velocity is evidently reduced sufficiently by the upstream pile clusters to prevent localized scour from occurring around the piles of the central landing platform and the west breasting dolphin. The Fugro study also noted that the localized scour patterns around the piles of the mooring dolphins and the east breasting dolphin are within a broader area of deposition, and would fill in over time with sediment deposits after the piles are removed.

Given this understanding of the current and scour patterns, Coscol proposes that the standard depth for pile removal during deconstruction of the MOT be at least 2 feet below the current mudline. Without maintenance dredging, it is anticipated that pile stubs would remain buried under at least 2 feet of sediment that would increase over time. The stubs of the piles that support the mooring dolphins and the east breasting dolphin that are within a localized scour area would be covered by considerably more sediment as these depressions would be expected to fill in relatively rapidly with sediment following pile removal.

Removal of Timber Piles

Coscol proposed that creosote-treated timber pile removal would occur using one of two methods: vibratory hammer or barge-mounted crane. The National Marine Fisheries Service (NMFS) preferred method of timber pile removal utilizes a vibratory hammer that first dislodges the pile, and then slowly lifts the entire timber pile from the Bay sediments. Because of the embedded depth and age (40 years) of the timber piles, it may not be feasible to completely remove the timber piles, which have a high probability of breaking during removal attempts. The alternative method would utilize either a barge-mounted crane to grab the timber pile and break it off, or a tug boat to pull on the timber pile until it breaks. Based upon past experience of several marine contractors in the San Francisco Bay Area, the timber piles generally break off at least 2 feet below the mudline (see Appendix B)**.** If timber pile breakage occurs using either method, the actual breakage depth for each timber pile would be verified by measuring the length between the mudline stain[2] and the bottom of the broken segment of timber pile that is brought to the surface. If the timber pile breaks at too high of a point, leaving a stub that is at an elevation higher than 2 feet below the mudline, the stub would be removed utilizing a hydraulic shear and crane or other equipment to cleanly pull out the stub a minimum of 2 feet below the Bay sediment. To prevent introduction of creosote to the water column, the timber stub would not be "chewed off" using a clam shell dredge or other equipment.

Final confirmation of whether timber pile stubs or debris are present on or above the seafloor would be made during the post-deconstruction bathymetric survey. The creosote treated timber piles would be lifted by crane onto a barge and transported to the staging area for transport by truck to a Class II or III landfill that is permitted to accept creosote treated wood waste.

Coscol estimates that the costs of the removal of timber piles using a vibratory hammer would be approximately three times the cost of breaking the timber piles 2 feet below the Bay mudline. In addition, removal of the timber piles using a vibratory hammer

[2] The term "mudline stain" describes the observable conditions of the pile at the mudline, which includes the presence of mud, as well as, extent of marine plant and animal growth. The mudline should be visible on piles extracted from the Bay. Mud is typically found clinging to the buried portions of the pile, but more importantly, the mudline can be easily discerned by presence of the vegetation and marine invertebrates clinging to piles above the mudline. The difference in volume, variety, and types of marine life above and below the mudline will be distinctly different due to the very different habitat conditions between these two environments. The presence of vegetation and marine invertebrates will also vary noticeably with changes in the elevation of the sediment.

requires a longer time period. The vibratory hammer removal method can remove an estimated seven timber piles per day. Timber piles can be removed by breaking at a rate of 18 piles per day. Given cost considerations, Coscol believes that it is not practical to utilize a vibratory hammer unless there would be significant environmental benefits.

Given the uncertainties of successful removal of timber piles by pulling due to age and the deteriorating state of the timber piles, Coscol and the NMFS have agreed to conduct a trial test to determine the most feasible and practical method for timber pile removal[3] (MWH 2008). During the trial, 10 randomly selected[4] timber piles at the MOT site would be removed using a vibratory hammer to explore expected success rates for complete removal. Coscol would prepare an extraction trial implementation plan for review and approval by NMFS and CSLC prior to initiation of the trial. The plan would include:

- Description of methods for trial extraction;
- Identification of personnel conducting the trial and oversight personnel;
- Listing of equipment to be used;
- Description of pile selection for the trial (the 10 timber piles for the trial would be selected randomly from various locations at the MOT, such as from the different sides of the main platform, and from mooring and breasting dolphins);
- Schedule for trial;
- Documentation of the trial results that would be prepared;
- Pre- and post agency notifications required; and

[3] During the timber pile extraction trial, the length between the mudline and the tip of each pile will be measured by conventional means before pile pulling. The depth to sediment measured by these means can be compared to the observed location of the mudline and marine growth after the pile is removed. If it can be demonstrated that the two methods for measuring the depth to sediment are found to yield similar results, the pile removal effort will use solely the visual assessment of the mudline stain (and marine growth) to assess the cut or breakage depth below the mudline. If this method proves inadequate, a contingency plan, subject to approval by the CSLC, will be implemented.

[4] Prior to the test, Coscol's marine deconstruction contractor will be requested to provide an approach that randomly selects the piles for the trial. One potential approach that will be provided to the contractor for consideration in the implementation plan is to select four timber piles on the main landing deck using a random number generator, and one timber pile at each of the six dolphins using the same means. The selection of piles on a random basis would result in a representative cross-section of actual conditions at the site. If the pile is obviously broken below the water line it will not be subjected to the trial. However, pre-assessment of the condition of the pile will not be conducted, as this could unfairly bias pile selection. Whether the randomly selected pile is in good, fair, or poor condition, it would still be representative of the conditions of the piles at the MOT as a whole.

- Description of environmental controls to avoid environmental impacts, such as preventing debris from entering the Bay waters, disposal methods for the trial piles, and other applicable procedures outlined in other plans.

Oversight of the trial would be conducted by Coscol, NMFS and CSLC representatives to document that the implementation plan is followed and that the correct technique for pulling is employed during the trial, and to reach agreement on changes to the trial if warranted by field conditions.

If the extraction trial demonstrates that three or more of the 10 timber piles can be completely removed from the Bay sediments using a vibratory hammer during the trial, then a vibratory hammer would be utilized for all timber pile removal activities at the MOT. If less than three timber piles can be pulled, then the piles would be broken off 2 feet below the Bay mud. Coscol estimates that the extraction trial would take about three to five days; and that pile removal using either method would be completed within the proposed Project deconstruction schedule.

Under either method, the following best management practices (BMPs) would be used to minimize creosote release, sediment disturbance and total suspended solids: (a) install a floating surface boom to capture floating surface debris; (b) keep all equipment (e.g., bucket, steel cable, vibratory hammer) out of the water, grip piles above the waterline;[5] (c) slowly lift the pile from the sediment and through the water column; (d) place the pile in a containment basin on a barge deck, pier, or shoreline without attempting to clean or remove any adhering sediment. A containment basin for the removed piles and any adhering sediment may be constructed of durable plastic sheeting with sidewalls supported by hay bales or another support structure to contain all sediment and return flow which may otherwise be directed back to the waterway; and (e) dispose of all removed piles, floating surface debris, any sediment spilled on work surfaces, and all containment supplies at a permitted upland disposal site that accepts creosote treated wood and materials contaminated with creosote.

[5] A vibratory hammer cannot be used below the water surface, hence the need to grip the top of the pile above the water surface. Therefore, if during the pile extraction trial it is found that piles are breaking at the waterline, another method, such as a choke chain to grip the pile below the water surface, may be required. If alternative methods cannot be safely or effectively implemented, the pile will be broken below the mud line as proposed.

Removal of Concrete Piles

Steel-reinforced concrete piles would be removed after the timber piles are removed, and would be cut off a minimum of 2 feet below the mudline with a hydraulic shear or another suitable device. Sediment around the base of the piles may be jetted[6] away to provide access for the cutting tool. Divers are generally recommended for these operations to assure the proper positioning of the cutting tool, but are not essential.

An alternative to cutting the piles off below the mudline is to extract them using a barge-mounted crane and a vibratory extractor. Visual inspections on February 22 and July 28, 2005, indicate that most of the piles are in reasonably good condition. However, given the embedment length of the concrete piles (up to 85 feet), and the fact that many of them are battered (approximately 136), it is likely that some, perhaps many, concrete piles would break during an extraction process. This may require concrete stubs to be "chewed" off to a depth of 2 feet below the mudline using barge-mounted equipment, or recovery of piles or portions of piles to the surface via rigging and a crane. Alternately, it could require the use of divers to position a hydraulic shear over the submerged pile stubs for cutting at the requisite depth. Confirmation of whether pile stubs or debris is present on or above the Bay floor would be made with a post-deconstruction bathymetric survey using the same methods that were used for the August-September 2005 pre-deconstruction bathymetric survey for the Project. The cut concrete piles would be lifted by crane onto barges and transported to the onshore staging area for recycling or landfill disposal.

An estimated 5,800 tons of steel-reinforced concrete would be generated during deconstruction of the decks, catwalks, and piles of the MOT. The proposed Project would attempt to process and recycle the concrete from the proposed Project as aggregate rather than dispose of it at a local landfill. Reduction of the concrete would be conducted at the onshore staging area and recycling or disposal of the debris would occur at a permitted facility. The proposed Project would temporarily disturb San Pablo Bay sediments during jetting activities required for pile removal and pipeline cutting activities. Considering the various scenarios for timber pile removal, the exact number of timber piles that would require jetting is unknown. Therefore, it is conservatively assumed that all timber piles and concrete piles would require jetting and the total amount of temporary disturbance to sediment would be no more than 1,100 cubic yards.

[6] Jetting is the process of using a high pressure water hose under water to blast or sweep away debris.

Post-Deconstruction Bathymetric Surveys and Sea Floor Debris Removal Plan

A pre-construction bathymetric survey was conducted for the Project site in between August and September 2005 by Fugro West, Inc. Per requirements of the CSLC lease, after removal of the MOT is completed, a post-bathymetric survey will be conducted of the lease area, including the MOT work area and shoreline work area (as practical, given the shallow water in the latter area). The survey will document the condition of the San Pablo Bay floor and identify debris resulting from previous MOT operations and/or from the deconstruction activities. Identified debris will be removed from the Bay floor to the surface and disposed or recycled, as appropriate using the Sea Floor Debris Removal Plan. Following are key details of the Sea Floor Debris Removal Plan:

1. The pre-deconstruction bathymetric survey conducted in August and September 2005 by Fugro concluded that the seafloor along the pipeline corridor and within the wharf survey are clear of exposed objects with the exception of three small targets detected south of the wharf: (1) a probable tire approximately 500 feet west of the wharf; (2) a non-magnetic anomaly measuring 7 feet long by 2.5 feet wide by 1.5 feet high at a depth of 28 feet below the water surface approximately 300 feet southeast of the wharf; and (3) a non-magnetic anomaly measuring 12 feet long by 2.5 feet wide by 1.5 feet high at a depth of 23 feet below the water surface, approximately 400 feet southeast of the wharf. These anomalies are not believed to be associated with the wharf or pipeline facilities.

2. A post-deconstruction survey would use the same methods employed in the pre-construction deconstruction survey including multiband bathymetry, side scan sonar, a magnetometer, and a sub-bottom profiler to identify potential debris items within the previously described survey area. Debris items are defined as those objects located on the seafloor or less than 3 feet below the seafloor, and identified as debris associated with the MOT wharf deconstruction process. Debris determined not to be associated with the deconstruction process would not be recovered.

3. After the post-deconstruction survey has been completed, the selected contractor would attempt recovery of submerged debris, if detected, from the surface using appropriate equipment. If a diver is required to recover debris, the debris would be rigged and raised to the deck of the barge or support vessel. Rigging methods would depend on the sizes, weight, and type of debris. Heavy debris would be choked with wire rope slings and raised to the surface using a crane. Heavy lifts, if required, would be subject to a Rigging and Lifting Plan which would be approved by the CSLC prior to deconstruction activities. Lighter pieces of debris may be fastened to soft-line and raised to the surface by hand. Targets determined to be buried up to 3 feet deep would be excavated using an appropriate method. Debris requiring recovery would be of a sufficient size to

warrant the effort, and for purposes of this plan, it is presumed that debris would have a displacement of a least 1 cubic foot.

4. Recovered debris, if any, would be transported to the contractor's shore base and disposed onshore at local landfill facilities or recycled.

5. The following personnel and equipment may be used to identify and recover debris:

    - Personnel: Construction Manager; Contractor Project Manager; Foreman; Crane Operator; Riggers; Tugboat Operator; Crew boat Operator; Crew boat Deckhand; Divers; and Diver Tenders.

    - Equipment: Barge with 20-ton crane and 4-point anchor spread; Support Tugboat Crew boat; Industrial Air Compressor; Jet Pump (150 horsepower (hp); Diver's Air Compressor; and Airlift.

6. A post-deconstruction bathymetric survey would then be conducted two years after completion of deconstruction activities to document that scour is not occurring in the MOT footprint and that piles embedded in the San Pablo Bay floor have not become exposed by erosion. The post-bathymetric survey would employ the same methods as employed in the August-September 2005 pre-deconstruction bathymetric survey.

2.3.3 Pipeline Abandonment

There are seven pipelines ranging in diameter from 3 to 24 inches that formerly serviced the MOT. Five of the pipelines were used for petroleum hydrocarbon transfer, one for water, and one served as a cable conduit.[7] These seven pipelines would be abandoned in place as part of the proposed Project. An additional 8-inch diameter pipeline was used for wastewater discharge during refinery operations. This pipeline is adjacent to and parallel with the seven MOT pipelines located within the first 500 feet from the shoreline and then continues an additional 1,200 feet further into San Pablo Bay. The wastewater pipeline is currently used for stormwater discharge by the city of Hercules and would remain in service.

The shore-side pipelines are terminated approximately 160 feet east of the Bay shoreline beneath the Victoria Crescent Open Space. The ends of the pipelines are terminated with welded-in-place blind flanges, and they are buried at an estimated depth of approximately 8 feet below the ground surface. The pipelines and conduits are contained within steel sleeves as they run beneath the Union Pacific Railroad tracks to

[7] This 3-inch-diameter cable conduit pipeline has not been removed. It would be flooded with seawater, capped, and abandoned in place.

a cast-in-place concrete vault that is located at the edge of the Bay. From the onshore vault, the pipelines and conduits extend beneath the Bay sediments approximately 1.3 miles to the MOT in a common trench. Two additional pipeline segments were installed through the sleeves under the railroad tracks; one as a cable conduit and one for petroleum hydrocarbons, both for potential future additions (Pacific Refining 2008)[8].

The five petroleum transfer pipelines were pigged[9], cleaned, tested, and filled with seawater in 2003 (Pacific Refining 2008). The vapor recovery unit that is present at the MOT was also drained and flushed with water at that time. Following the pigging and cleaning operations, the pipelines were allowed to fill with seawater from the MOT side facility to the shoreward end of the pipelines. A seawater sample was subsequently collected from a sample port installed at the shore side end of each pipeline. The samples contained less than 15 parts per million (ppm) of total recoverable petroleum hydrocarbons (TRPH) as indicated using EPA Test Method 418.1. The CSLC (Working Policy March 13, 2000, pursuant to the Lempert-Keene-Seastrand Oil Spill Prevention and Response Act of 1990, amended, section 8755) and United State Coast Guard (USCG) guidance for abandoned petroleum pipelines requires cleaning and flushing to a standard such that the wash water contains less than 15 ppm total petroleum hydrocarbons.

There are two types of pipeline abandonment processes that would be used during the Project: (1) shore-side grouting; and (2) MOT-side plugging and laying up in seawater. It is believed that the pigging and cleaning operation completed in 2003 substantially satisfies the requirements for abandoning the pipelines in place (see Section 3.4.7 Hazards and Hazardous Materials for additional information). Following are descriptions of the additional processes that would have to be completed.

Offshore Pipelines

The MOT-side pipelines are currently blinded at the MOT and at the shore-side of the pipeline alignment, and laid up in seawater. Deconstruction activities for the offshore pipelines at the MOT include removing the pipeline sections that emerge from San Pablo Bay sediments and rise up to service the MOT. These pipeline sections

[8] If any work is needed on these additional pipeline segments under the Union Pacific Railroad tracks or any additional work is needed within the Union Pacific Right-or-Way, Pacific Refining would need prior approval of Union Pacific before such work would be performed.

[9] Pigged or pigging in this context, is defined here as the use of a pipeline cleaning pig, usually a metal and/or plastic plug the diameter of the pipeline that is pushed through the pipeline to scrape or inspect the pipeline.

would be cut off at a depth of 3 feet or more below the existing Bay sediments. Prior to cutting each pipeline, a grout plug would be placed or a sacrificial plug would be installed on the shoreward side of the cut location to contain the existing seawater contents and prevent leakage of seawater from the pipelines. The cut pipe sections would be rigged and lifted on board a barge with a crane for transportation to the shore-based staging area for salvage, recycling, or disposal.

The shore end of the offshore pipelines would be closed by installation of a blind flange prior to being covered in concrete after shore-side work is completed.

2.3.4 Shore-Side Pipelines and Onshore Vault

The shore-side pipelines extend from an onshore concrete vault that is located adjacent to San Pablo Bay, landward through steel sleeves beneath the Union Pacific Railroad tracks to a subsurface terminus east of the railroad tracks that is buried under the Victoria Crescent Open Space. To access the onshore vault, a shallow draft barge would be placed as close to the vault as is safely possible and work would be conducted from the barge. Planned activities for abandoning the pipelines in place would be at the vault. Disturbance to the surface of Victoria Crescent Open Space, the existing or planned Bay Trail sections, or the Union Pacific Railroad right-of-way is not anticipated. The concrete apron surrounding the vault and the vault cover would be removed using a concrete saw and/or jackhammer to gain access to the pipelines. Existing concrete debris within 10 feet of the pipelines would also be removed. The shore-side pipelines would be grouted from the vault box by inserting a tremie pipe[10] horizontally into the lines to their eastern terminus. Grout would be pumped into the pipes, working from their eastern terminus back to the vault box and capped at the terminus**.** BMPs would be employed so that grout is not discharged into San Pablo Bay (see Appendix B).

During the shore-side access through the concrete vault, the shore-side end of each of the seven offshore pipelines would be terminated with a blind flange (see Appendix B).

Following grouting of the pipes, the shoreward terminus of the pipelines from the Marine Terminal will be cut close to where they enter the onshore vault, and either blind flanged, capped, or plugged at the onshore vault. The short segment of each pipe between the two cuts at vault area will be removed and disposed of offsite. Rip rap similar to that currently used along the shoreline will be used to restore the vault area.

[10] A tremie pipe is a hopper and a drop pipe used to place concrete underwater.

The rip rap will be placed to cover the cut and capped ends of the shoreward pipelines and the remaining, existing ground beneath the onshore vault. Because piping and concrete will be removed from the vault area, the volume of restored area will be somewhat smaller than the existing vault area and will be blended into the existing rip rap along the adjacent portions of the shoreline to approximate pre-existing conditions. At the request of the CSLC, existing concrete debris along the shoreline within the 50-foot wide lease parcel will be removed and replaced with rip rap, as practicable and as acceptable by the UPRR considering safety and operational requirements of the railroad.

2.3.5 Contractor's Shore Base

At the present time, Coscol has not selected a contractor to perform this deconstruction project. Coscol has provided a list (Pacific Refining 2009) of some companies that have expressed interest in bidding on the MOT project: Cooper Crane and Rigging; C.S. Marine Constructors, Inc.; Divecon; The Dutra Group; Manson Construction Co.; and Vortex Marine Construction, Inc. For the purposes of this document, it is assumed that the contractor's shore base and the facilities for equipment, barges, materials, and waste handling would occur at one of the existing commercial/industrial facilities, listed below:

- Cooper Crane and Rigging has an available shore facility at Mare Island at Building 684, Nimitz Ave., Vallejo;

- C.S. Marine Constructors, Inc. has an available shore facility at Mare Island at 425 15th Street, Mare Island Berth 19, Vallejo;

- The Dutra Group has several local shore facilities, including Point Richmond at 961 Western Dr., Richmond; on the Oakland Estuary at 2199 Clement Ave., Alameda; in Rio Vista at 615 River Rd., Rio Vista, and in San Rafael at 1000 Point San Pedro Rd., San Rafael;

- Manson Construction Co. has a shore facility at the Richmond Inner Harbor at 200 Cutting Blvd., Richmond;

- Vortex Marine Construction, Inc. has a small pier and office in a mixed use area along the Oakland Estuary at the Livingston Street Pier. Vortex's main shore base is at another location on the Oakland Estuary, within the 9th Street pier facility, Oakland, CA 94606. This pier facility is a large (400' x 1,400) earth fill industrial pier/berthing complex used by several industrial/transportation/barging operations. The pier is bounded on 2 sides by open waters of the Oakland

Estuary, one side by an industrial shipping berth/inlet and on the 4th side by the Embarcadero (street), Interstate 880, and railroad switchyards; and

- Divecon, based in Ventura, California, does not have a shore facility in the Bay Area, and would lease an existing shore facility if it were to perform the work. The likely location for Divecon's shore facility would be an existing commercial/industrial facility in one of the areas listed above (Richmond Inner Harbor, Point Richmond, Mare Island/Vallejo, or the Oakland Estuary).

Because of the distances from the work site to many of the shore facilities, daily work crews would likely be picked up at commercial marina facilities closer to the MOT. Docks to be used for picking up work crews on a daily basis are available at Vallejo Municipal Marina on Harbor Way, Vallejo, and at the Crockett Marina, immediately west of the Carquinez Bridge (Pacific Refining 2009).

2.4 DECONSTRUCTION SCHEDULE

2.4.1 Schedule

Deconstruction of the MOT and abandoning the pipelines in place is scheduled for 2009, prior to expiration of the CSLC lease. Construction activities would occur over approximately 5-½ months, which is currently estimated to start around May 15 and be completed by the end of October 2009, based on the forecasted permit schedule. The forecasted schedule corresponds with the recommended NMFS construction window to protect salmonids; however, because deconstruction methods do not include pile driving or dredging activities, and would be expected to result in minimal sediment disturbance, adverse effects on migrating salmonids would not be expected. Consequently, adhering to this construction window is not mandated by NMFS as part of the Project minimization measures.

Deconstruction activities at the MOT would be limited to normal workdays and hours. Deconstruction activities to abandon the pipelines on shore would require one week, which would be concurrent with the other activities occurring during removal of the MOT. Work hours would adhere to the city of Hercules requirements and would be anticipated to be Monday through Friday (work to be conducted between 8 am and 5 pm with the option to extend hours with a pre-approved variance from the city of Hercules Public Works Director), with work on Saturdays when pre-approved by the Public Works Director.

2.4.2 Workforce

Construction activities at the MOT would require approximately 12 to 17 construction personnel depending upon the stage of deconstruction activities. At the peak of construction, about 12 construction workers would be on site for MOT deconstruction and about five construction workers would be on site for activities to abandon the shore-side pipelines.

2.5 ENVIRONMENTAL COMPLIANCE INSPECTION AND MITIGATION MONITORING PROPOSED BY THE APPLICANT

Environmental controls for the proposed Project would include specific requirements for controlling and/or mitigating potential impacts to water quality (such as debris and oil spills), air quality, traffic, biological resources, and noise.

Project plans require preparation by Coscol (or its contractors) and approval by the CSLC of the following plans: a Marine Safety Plan; Seafloor Debris Removal Plan; Rigging and Lifting Plan; Traffic Control Plan, Critical Operations and Curtailment Plan; Marine Communication Plan; Marine Transportation Plan; Navigation Marking and Lighting Plan; Anchoring Plan; Spill Prevention, Control, and Countermeasure Plan; and Oil Spill Response Plan (see Appendix B for additional information on these plans).

2.5.1 Applicant Proposed Measures (APMs)

The proposed Project would employ several procedures to contain debris and fluids from deconstruction activities including a temporary lumber substructure, or another appropriate system erected beneath the work areas to contain falling debris, as well as containment systems for cutting fluids that potentially could enter the Bay. In addition, floating booms would be used to contain any floating debris within the construction work area and facilitate recovery.

APM-1 Vessel fueling will be required at the staging area or at an approved docking facility. No cross vessel fueling will be allowed. Marine vessels generally will contain petroleum products within tankage that is internal to the hulls of the vessels.

APM-2 All deck equipment will be equipped with drip pans to contain leaks and spills. All fuels and lubricants aboard the work vessels will have a double containment system. Chemicals used on the MOT and marine vessels will be stored using secondary containment.

APM-3 Vessels and equipment that rely on internal combustion engines for power and/or propulsion will be kept in good working condition, and compliant with California emission regulations.

APM-4 Regular equipment maintenance and installation of mufflers, as appropriate on construction equipment, will be required of the contractors to minimize noise levels on shore.

APM-5 Pre-construction lead and ACM surveys will be conducted for MOT structures and equipment, and structures found to contain these hazards will be remediated prior to starting deconstruction activities.

APM-6 BMPs will be employed to prevent soil, concrete or grout from entering the Bay as a result of activities associated with abandoning the onshore pipelines in place.

APM-7 Deconstruction activities will be performed between May 15 and October 31 during daylight hours only (8 am to 5 pm). Work on Saturdays would be subject to permission by the city of Hercules Public Works Director.

APM-8 Measures will be developed and implemented in coordination with wildlife agencies prior to the start of deconstruction activities to prevent birds from nesting on the MOT structures. If necessary, preconstruction nesting bird surveys will be conducted for birds and bats, as appropriate, prior to deconstruction activities to confirm effectiveness of the measures.

APM-9 In coordination with the city of Hercules and town of Rodeo, residences in the vicinity of the proposed Project will be notified of the Project schedule and duration.

APM-10 Construction work at the onshore vault will be scheduled for summer months.

APM-11 To avoid impacts to marine mammals during deconstruction activities, a Marine Mammal Contingency Plan will be developed, reviewed and approved by NOAA NMFS and the CSLC prior to any deconstruction activities.

APM-12 An exclusion zone around the construction area will be established in coordination with the USCG to restrict other vessel traffic around the Marine Terminal and the zone will be marked with buoys.

APM-13 Procedures will be implemented to inspect deck-mounted equipment and to flush or drain the equipment as appropriate, so that the equipment can be safely removed without risking petroleum or other hydrocarbon releases.

APM-14 A Spill Prevention, Control and Countermeasure (SPCC) Plan will be prepared and implemented to minimize the potential for accidental releases of fluids such as hydraulic fluids, solvents, oils, and residual fluids present in MOT equipment.

APM-15 As part of the Construction Work Plan, Coscol shall have no source of fuel or oil larger than 5 barrels (210 gallons) at the proposed Project site, including the MOT, the near shore work barge, and the shore base.

APM-16 The Construction Work Plan calls for preparation by Coscol (or its contractors) and approval by the CSLC prior to deconstruction activities, of the following plans: a Marine Safety Plan, an Extraction Trial Implementation Plan, Seafloor Debris Removal Plan, Rigging and Lifting Plan, Traffic Control Plan, Critical Operations and Curtailment Plan, Marine Communication Plan, Marine Transportation Plan, Navigation Marking and Lighting Plan, Anchoring Plan, and an Oil Spill Response Plan.